## (E) REMARKS

The Applicants would like to thank the Examiner for carefully reviewing the specification, drawings and claims. The Applicants are particularly appreciative that the Examiner has allowed claims 15-34 and 38-42, and has indicated that claims 5-14, 36 and 37 recite allowable subject matter. The Applicants respectfully request reconsideration of the application in view of the above amendments and the following remarks, which are directed to each of the ground for rejection of objection cited in the Office Action of March 17, 2004.

**1. Objections to the Specification**

**a. Abstract**

The Abstract was objected to as not being in the correct form. The Applicants have replaced the Abstract with a new one, which they believe is in the correct form.

**b. Specification**

The Specification was objected to for inclusion of reference to two Appendices in the last paragraph on page 26, neither of which is needed to make the Specification enabling. The Applicants have amended the last full paragraph on page 26 to omit reference to the Appendices. The Applicants believe that the amendment to page 26 is fully responsive to the objection to the Specification.

**2. Claims**

**a. Status of the Claims**

Claims 1-44 are pending in the application. Claims 15-34, and 38-42 stand allowed. Claims 1-4, 35, 43 and 44 stand rejected. Claims 5-14, 36 and 37 would be allowable if rewritten in independent form including each and every limitation of the rejected base claim and any intervening claims.

Claims 1 and 35 were amended to more clearly define the scope of the invention. Claim 2 was canceled because its subject matter was at least in part included in the

amendments to claim 1 (and claim 35). Claims 5-9 were amended for clarity and consistency and not to affect the scope of the claims. Claims 43 and 44 were canceled.

**b. Claim Rejections – 35 U.S.C. § 102(a) and (e)**

Claims 1-4, 35 and 43 were rejected as anticipated by Padhi et al. (U.S. Patent No. 6,178,381). To the extent the rejection may apply to amended claims 1 and 35, the Applicants respectfully traverse for the reasons which follow.

Generally, the Applicants' invention of claim 1 is a method for migrating converted wave seismic data. The data include an input seismic data point having an input source location and an input receiver location, a scatter point, and an image location associated with the seismic data point. A pseudo-offset is determined . The pseudo offset includes a pseudo source location and a pseudo receiver location. The seismic data point is mapped to the image location based at least in part on the pseudo-offset.

The Applicants admit that Padhi et al. discloses generating a "pseudo offset", however, as defined in amended claim 1, pseudo offset means an apparent distance between a pseudo source location and a pseudo receiver location which in some embodiments produce a total signal travel time that is equal to a travel time of a seismic wave which travels from an actual source location to an image point and back to an actual receiver location. By contrast, Pseudo offset as used in Padhi et al means "the offset for the trace in the minimal data set with the reflection point at the output location for zero dip." See Padhi et al. col. 7, lines 28-31. Later in col. 7, Padhi et al. explains how to calculate pseudo offset. Notably, no calculation, estimation or projection of any pseudo source location or receiver location is contemplated by the process disclosed in Padhi et al. Applicants' invention of claim 1 also includes mapping the seismic data to the image point based at least in part of the pseudo offset. Further, Padhi does not disclose mapping seismic data to an image point based on a pseudo offset, where the pseudo offset includes a pseudo seismic source location and a pseudo seismic receiver location. Accordingly, the Applicants believe that claim 1 as amended is not anticipated by Padhi et al.

Claim 2 has been canceled. Claims 3-14 ultimately depend from claim 1 and are believed to be patentable for at least the same reasons advanced with respect to claim 1.

Claim 35 recites a system having means for performing each of the elements of a process as defined in claim 1. The means for performing the process element of determining a pseudo offset has been amended in claim 35 to correspond to the same process element of claim 1, namely, that the pseudo offset includes a pseudo source location and a pseudo receiver location. For the reasons advanced with respect to claim 1, the Applicants believe that a system having means for performing all the process elements of claim 1 is also patentable over Padhi et al. Claims 36 and 37 depend from claim 35 and are patentable for at least the same reasons advanced with respect to claim 35.

Claims 43 and 44 have been canceled, so as to moot any outstanding rejection or objection.

The Applicants believe that this Reply is fully responsive to each and every ground of rejection and objection cited in the Office Action of March 17, 2004, and respectfully request early favorable action on their application.

Respectfully submitted,

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